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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/801,265	03/16/2004	Jean-Paul Bonnet	1055-04	4747

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EXAMINER

RODRIGUEZ, WILLIAM H

ART UNIT	PAPER NUMBER
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3746

DATE MAILED: 05/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary	Application No. 10/801,265	Applicant(s) BONNET ET AL.	
	Examiner William H. Rodriguez	Art Unit 3746	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1,2 and 9-14 is/are rejected.
- 7) ☒ Claim(s) 3-8 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 March 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>3/16/04</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, *“the internal wall of the jet engine; a jet engine showing the device for controlling propulsive gas mixing”* must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Figures 4, 5 9 and 10 should show the internal wall of the jet engine surrounding the secondary flux (9). Further a new Figure showing a jet engine comprising the device for controlling propulsive gas mixing must be shown. Yet further, a more noticeable distinction between the non-activated mode (Figure 4) and the activated-mode (Figure 5) should be made. In Figures 4 and 5 the trailing edge (3) appears to have remained at the same position (angle) regardless of the change in mode (non-activated to activated).

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet”

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pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

2. Claims 11, 13 and 14 are objected to because of the following informalities:

In claims 11, 13 and 14 the recitation "the trailing edge" should be replaced by --the divergent trailing edge--. Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

5. Claim 1 recites the limitation "a divergent trailing edge" in line 5. It is unclear from the claim if the trailing edge is divergent with respect to the external wall of the nozzle (the hot primary jet flow towards the central axis of the engine) or divergent with respect to the central axis of the engine (the hot primary jet flows away from the central axis of the engine towards the external wall of the nozzle). Examiner suggests adding a reference frame to the claim in order to clarify with respect to which element the trailing edge is divergent to (*i.e., a divergent trailing edge on the external wall of the nozzle that generates conditions of a separation of the hot*

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primary jet, said divergent trailing edge diverging said separated hot primary jet towards/ away from a central axis of said jet engine). Appropriate correction is required.

6. Claim 1 recites the limitation "a separation of the primary jet" in lines 5-6. It is unclear from what is the primary jet separating from (i.e., from itself, from the external wall of the nozzle, etc). Examiner suggests amending the recitation "a separation of the primary jet" to clarify from what element the primary jet is separating from. Appropriate correction is required.

7. Claims 1, 4-8, 13 and 14 recite the limitation "the wall" in lines 5, 2-3, 2-3, 2, 2, 2, 2, and 1 respectively. There is insufficient antecedent basis for this limitation in the claim. Further, it is unclear whether this limitation is referring back to "the external wall of the nozzle" or "the internal wall of the engine" or to some other wall. Appropriate correction is required.

8. Claim 1 recites the limitation "close to an existence limit value" in line 6. This recitation is not clear or understood and thus makes the claim indefinite. Examiner suggests amending this recitation in a way as to clarify what applicant considers his/her invention. Appropriate correction is required.

9. Claim 9 recites the limitation "the internal wall of the nozzle" in line 2. There is insufficient antecedent basis for this limitation in the claim. Notice that claim 1 only recites an internal wall of the jet engine but does not positively recite an internal wall of the nozzle. Appropriate correction is required.

Claim Rejections - 35 USC § 102

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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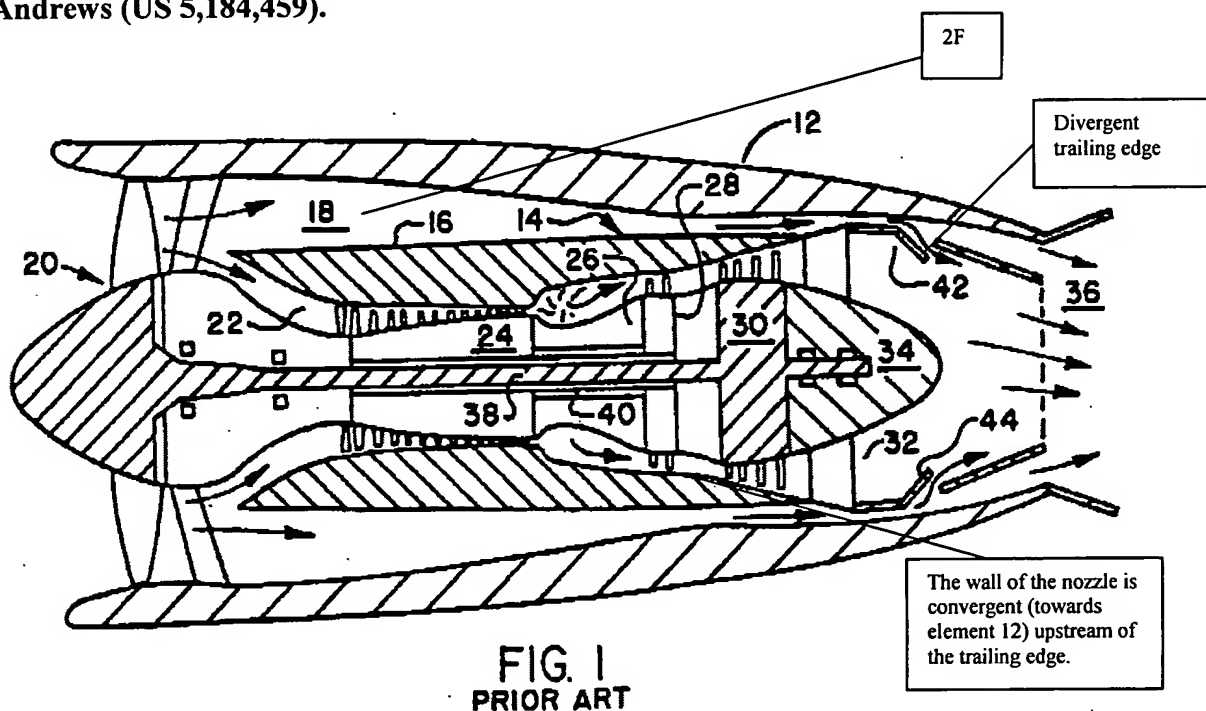
A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

11. Claims 1, 2 and 11-14 are rejected under 35 U.S.C. 102(b) as being anticipated by

McAndrews (US 5,184,459).



With respect to claim 1, McAndrews teaches an engine having a device 42, 44 for controlling propulsive gas mixing at an outlet of said engine, wherein propulsive jets are composed of a hot primary jet exiting from a nozzle of the engine and a secondary flux (2F) flowing between an external wall of the nozzle and an internal wall of the engine, the device comprising: a divergent trailing edge* on the wall that generates conditions of a separation of the primary jet and a primary jet controller (not show but mentioned, column 3 lines 35, 39) that

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enables control of passage of the primary jet from a separated state to a reattached state, and vice versa. See particularly **Figure 1** of McAndrews above.

*Diverging the primary jet towards a central axis of the engine, away from the wall of the nozzle.

With respect to claim 2, **McAndrews** teaches that controlling the separation of the primary jet is periodic (elements 42, 44 open and close periodically depending on the mode of operation). See particularly **Figure 1** of McAndrews above.

With respect to claim 11, **McAndrews** teaches that control of the separation of the primary jet is implemented at the trailing edge. See particularly **Figure 1** of McAndrews above.

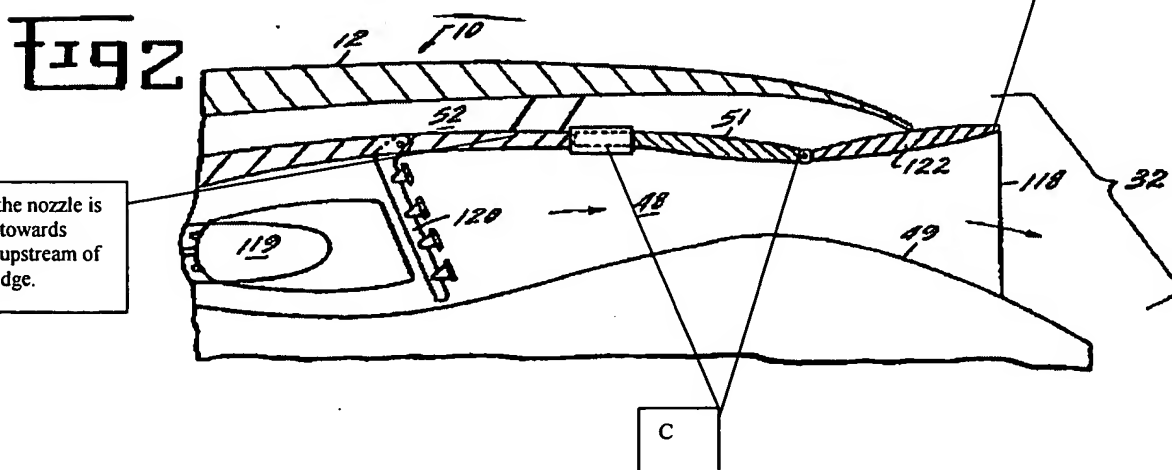
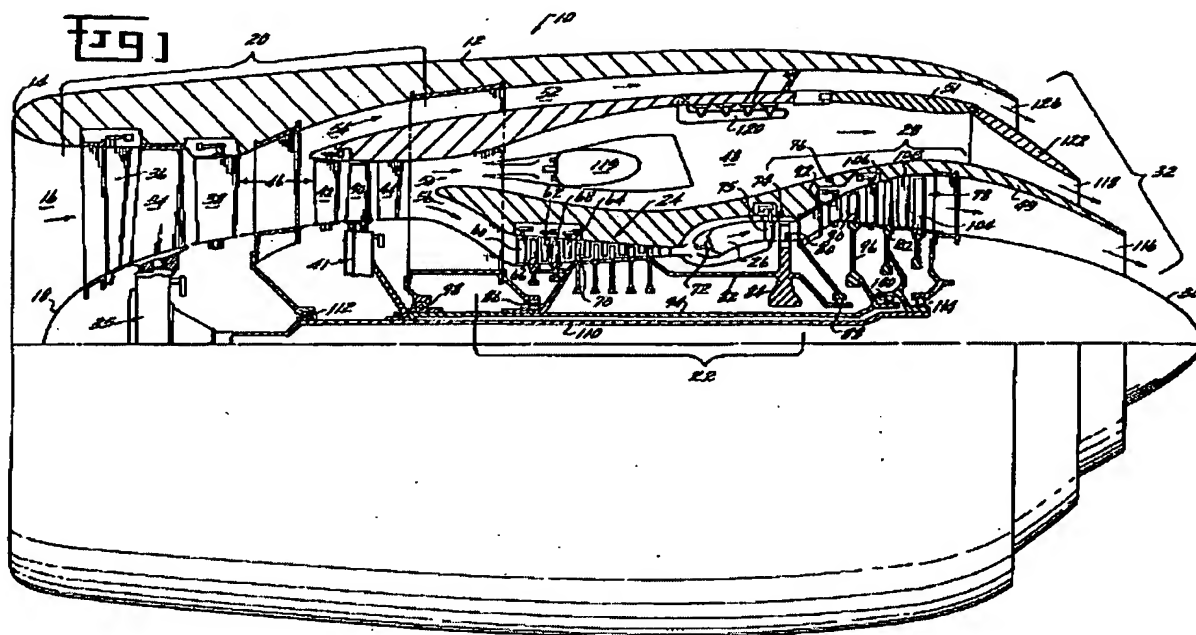
With respect to claim 12, **McAndrews** teaches that control of the separation of the primary jet is implemented to generate a symmetrical flow at the outlet of the engine. See particularly **Figure 1** of McAndrews above.

With respect to claim 13, **McAndrews** teaches that the trailing edge has an angle with the wall of the nozzle between about 10 and about 30.degree. See particularly **Figure 1** of McAndrews above.

With respect to claim 14, **McAndrews** teaches that the wall of the nozzle is convergent upstream of the trailing edge. See particularly **Figure 1** of McAndrews above.

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12. Claims 1, 2, and 9-14 are rejected under 35 U.S.C. 102(b) as being anticipated by Koff et al. (US 4,080,785).



The wall of the nozzle is convergent (towards element 12) upstream of the trailing edge.

Divergent trailing edge

C

With respect to claim 1, **Koff** teaches an engine having a device 122 for controlling propulsive gas mixing at an outlet of said engine, wherein propulsive jets are composed of a hot primary jet exiting from a nozzle of the engine and a secondary flux (52) flowing between an external wall of the nozzle and an internal wall of the engine, the device comprising: a divergent trailing edge* on the wall that generates conditions of a separation of the primary jet and a primary jet controller (C) that enables control of passage of the primary jet from a separated state to a reattached state, and vice versa. See particularly **Figures 1, 2** of Koff above.

*Diverging the primary jet away from a central axis of the engine

With respect to claim 2, **Koff** teaches that controlling the separation of the primary jet is periodic (element 122 opens and close periodically depending on the mode of operation). See particularly **Figures 1, 2** of Koff above.

With respect to claim 9, **Koff** teaches that the controller C is arranged on all or a part of the circumference of the internal wall of the nozzle. See particularly **Figures 1, 2** of Koff above.

With respect to claim 10, **Koff** teaches that the controller C is arranged on all or a part of the circumference of the external wall of the nozzle. See particularly **Figures 1, 2** of Koff above.

With respect to claim 11, **Koff** teaches that control of the separation of the primary jet is implemented at the trailing edge. See particularly **Figures 1, 2** of Koff above.

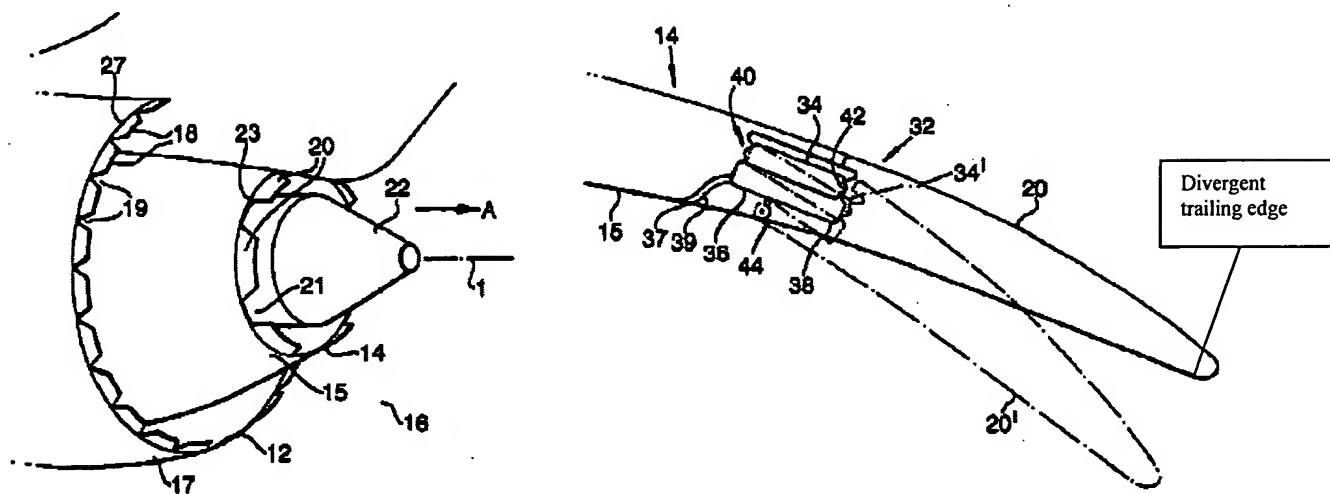
With respect to claim 12, **Koff** teaches that control of the separation of the primary jet is implemented to generate a symmetrical flow at the outlet of the engine. See particularly **Figures 1, 2** of Koff above.

With respect to claim 13, **Koff** teaches that the trailing edge has an angle with the wall of the nozzle between about 10 and about 30.degree. See particularly **Figures 1, 2** of Koff above.

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With respect to claim 14, **Koff** teaches that the wall of the nozzle is convergent upstream of the trailing edge. See particularly **Figures 1, 2** of **Koff** above.

13. Claims 1, 2, 9 and 11-14 are rejected under 35 U.S.C. 102(e) as being anticipated by **Birch et al.** (US 6,813,877).



With respect to claim 1, **Birch** teaches an engine having a device 20 for controlling propulsive gas mixing at an outlet of said engine, wherein propulsive jets are composed of a hot primary jet exiting from a nozzle of the engine and a secondary flux flowing between an external wall of the nozzle and an internal wall of the engine, the device comprising: a divergent trailing edge* on the wall that generates conditions of a separation of the primary jet and a primary jet controller (34) that enables control of passage of the primary jet from a separated state to a reattached state, and vice versa. See particularly **Figures 2, 5** of **Birch** above.

*Diverging the primary jet towards a central axis of the engine, away from the wall of the nozzle.

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With respect to claim 2, **Birch** teaches that controlling the separation of the primary jet is periodic (element 20 opens and close periodically depending on the mode of operation). See particularly **Figures 2, 5** of Birch above.

With respect to claim 9, **Birch** teaches that the controller C is arranged on all or a part of the circumference of the internal wall of the nozzle. See particularly **Figures 2, 5** of Birch above.

With respect to claim 11, **Birch** teaches that control of the separation of the primary jet is implemented at the trailing edge. See particularly **Figures 2, 5** of Birch above.

With respect to claim 12, **Birch** teaches that control of the separation of the primary jet is implemented to generate a symmetrical flow at the outlet of the engine. See particularly **Figures 2, 5** of Birch above.

With respect to claim 13, **Birch** teaches that the trailing edge has an angle with the wall of the nozzle between about 10 and about 30.degree. See particularly **Figures 2, 5** of Birch above.

With respect to claim 14, **Birch** teaches that the wall of the nozzle is convergent upstream of the trailing edge. See particularly **Figure 1** of Birch above.

Allowable Subject Matter

14. Claims 3-8 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

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Conclusion

15. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

At least claim 1 is rejected under 35 U.S.C. 102(b) or (e) as being anticipated by the following references:

US 6,314,721 Figures 1, 2a

US 6,487,848 Figures 1, 3

US 6,360,528 Figures 4, 5

US 2002/0125340 Figures 1-3

Contact information

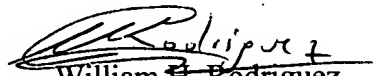
Any inquiry concerning this communication or earlier communications from the examiner should be directed to William H. Rodriguez whose telephone number is 571-272-4831.

The examiner can normally be reached on Monday-Friday 7:30 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy S Thorpe can be reached on 571-272-4444. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



William H. Rodriguez

Examiner

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